AIM: Write python programs by declaring a function

A) Found which grade student will get based on SGPA.

B) Find max from three numbers

C) Calculate number of Uppercase and lowercase letters of string given by user

D) Find a Square of a given list using lambda function

E) Enter value from user and print multiplication table

F) Create a list by user given value and make sum of it using loop

G) Use comprehension method

- **Create a two separate list of even and odd numbers from 1 to 50**
- **Get value which are divided by 5 from 1 to 100**

A)

Program Code:

```python
print("22DCE006\n")
maths=float(input("Enter the marks of maths:"));
science=float(input('enter the marks of science:'));
English=float(input('enter the marks of English:'));
Hindi=float(input('Enter the marks of Hindi:'));
grade='\0'
total=maths+science+English+Hindi
avg=total/4
if(avg>=90):
    grade ='A'
elif((avg>=80) and (avg<90)):
    grade='B'
elif((avg>=70) and (avg<80)):
    grade='C'
elif((avg>=60) and (avg<70)):
    grade='D'
elif((avg>=50) and (avg<60)):
    grade='E'
else:
    grade='F'
print("your grade is",grade)
```

Output:

```
PS D:\Probin's Work\Python> python new.py
22DCE006

Enter the marks of maths:97
enter the marks of science:99
enter the marks of English:98
Enter the marks of Hindi:94
your grade is A
PS D:\Probin's Work\Python>
```

B)

Program Code:

```
print("22DCE006\n")
a = int(input('Enter first number : '))
b = int(input('Enter second number : '))
c = int(input('Enter third number : '))
max = 0
if a > b and a > c :
    max = a
elif b > c :
    max = b
else :
    max = c
print(max, "is the maximum of three numbers.")
```

Output:

```
PS D:\Probin's Work\Python> python new.py
22DCE006

Enter first number : 77
Enter second number : 54
Enter third number : 99
99 is the maximum of three numbers.
PS D:\Probin's Work\Python>
```

C)

Program Code:

```
print("22DCE006\n")
def count_letters(string):
    uppercase_count = 0
    lowercase_count = 0

    for char in string:
```

```
    if char.isupper():
        uppercase_count += 1
    elif char.islower():
        lowercase_count += 1

  return uppercase_count, lowercase_count

string = input("Enter a string: ")
uppercase, lowercase = count_letters(string)
print(f"Uppercase letters: {uppercase}")
print(f"Lowercase letters: {lowercase}")
```

Output:

```
PS D:\Probin's Work\Python> python new.py
22DCE006

Enter a string: HellO
Uppercase letters: 2
Lowercase letters: 3
PS D:\Probin's Work\Python>
```

D)
Program Code:

```
print("22DCE006\n")
number = [7,8,9,10]
print("Square every number are:")
square_number = list(map(lambda x: x ** 2, number))
print(square_number)
```

Output:

```
PS D:\Probin's Work\Python> python new.py
22DCE006

Square every number are:
[49, 64, 81, 100]
PS D:\Probin's Work\Python>
```

E)
Program Code:

```
print("22DCE006\n")
n = int(input("Enter a number: "))
for i in range(1,11):
    print(n,'x',i,'=',n*i)
```

Output:

```
PS D:\Probin's Work\Python> python new.py
22DCE006

Enter a number: 7
7 x 1 = 7
7 x 2 = 14
7 x 3 = 21
7 x 4 = 28
7 x 5 = 35
7 x 6 = 42
7 x 7 = 49
7 x 8 = 56
7 x 9 = 63
7 x 10 = 70
PS D:\Probin's Work\Python>
```

F)

Program Code:

```
print("22DCE006\n")
LIST=[]
n=int(input("ENter the number of element you want to insert in the list: "))
for i in range(0,n):
    e=int(input())
    LIST.append(e)
print("LIST IS :",LIST)
sum=0
for i in range(0,len(LIST)):
    sum=sum+LIST[i]
print("Sum of the list is",sum)
```

Output:

```
PS D:\Probin's Work\Python> python new.py
22DCE006

ENter the number of element you want to insert in the list: 5
1
2
3
4
5
LIST IS : [1, 2, 3, 4, 5]
Sum of the list is 15
PS D:\Probin's Work\Python>
```

G)

Program Code:

```
print("22DCE006\n")
LIST1=[]
LIST2=[]
for i in range(1,51):
    if i&1:
        LIST1.append(i)
    else:
        LIST2.append(i)
print("The list of the even number is",LIST2)
print("The list of the odd number is",LIST1)
list3=[]
for i in range(1,101):
    if i%5==0:
        list3.append(i)
print("The number divisible by the 5 in range 1 to 100 are",list3)
```

Output:

```
PS D:\Probin's Work\Python> python new.py
22DCE006

The list of the even number is [2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50]
The list of the odd number is [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49]
The number divisible by the 5 in range 1 to 100 are [5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100]
PS D:\Probin's Work\Python> |
```

Conclusion: In this practical we learnt about the different type of the fuction like the lambda fucntion, append and how to create the list in which user can enter the data,if else statement in the python and its usage for manipulating the list .

Staff Signature:

Grade:

Remarks by the Staff: